Stormwater Management in the City of Johns Creek

Every time it rains, some of the water enters, or infiltrates, the ground. The rest of the rainwater runs off over the land surface directly into streams, rivers, and lakes. This is known as stormwater runoff.

The land area that drains to these bodies of water is called a watershed. Everything that happens in a watershed has the potential to affect the health and stability of our streams, rivers, and lakes. The City of Johns Creek and the entire metro north Georgia region use these water bodies for both recreation and drinking water supply, so proper stormwater and watershed protection is essential.

Impervious surfaces such as rooftops, driveways, streets and parking lots prevent rainwater from soaking into the ground. Development and urbanization in a watershed adds impervious surfaces and increases the amount and rate of stormwater runoff.

This effect is further exacerbated by drainage systems such as curbs and gutters, storm pipes and lined channels that are designed to quickly deliver runoff to water bodies. This can produce negative impacts such as streambank erosion and flooding. The problem could also be compounded by building and filling in floodplain areas, which cause floodwater elevations to rise even further. In a watershed with rapid development, properties and structures that had not previously been subject to flooding may now be at risk.

In addition, as stormwater runoff flows across lawns, driveways, streets and parking lots, it picks up pollutants and debris, including sediment (dirt), fertilizer, pesticides, motor oil, grease, heavy metals, toxic chemicals, leaves and grass clippings, pet waste and litter. These pollutants are carried to the nearest water body.

A common misconception is that stormwater runoff from streets and parking lots goes to a wastewater treatment plant. In fact, stormwater usually receives no treatment. The impacts of this “direct discharge” of polluted runoff into our water bodies can be the decline in population of aquatic plants and animals as well as loss of recreation and increased costs for treatment, maintenance, and regulatory compliance.

There are many ways to address the quantity and quality impacts of stormwater runoff. Local governments should have an active public education and involvement program. Among the possible steps:

- Require structural stormwater controls, such as ponds and wetlands, on all new development and redevelopment projects;
- Encourage better site design to reduce imperviousness and leave more land as greenspace; promote pollution prevention practices to help keep contaminants out of stormwater
- Address illicit discharge and illegal connections to storm systems; and
- Provide for stream buffer protection and effective floodplain management.

For a number of reasons, including public health and safety, environmental, economic, legal liability, regulatory responsibility and to improve quality of life, the City of Johns Creek has a vested interest and need to effectively deal with stormwater runoff. Stormwater management involves both the prevention and mitigation of runoff quantity and quality impacts through a variety of methods and mechanisms.

In general, stormwater management can be broken down into the following areas:

- **Watershed Planning** - Using the watershed as the framework for managing land use and developing large scale solutions to regional stormwater quantity and quality problems
- **Development Requirements** - Addressing the stormwater impacts of new development and redevelopment through stormwater management requirements and minimum standards
- **Erosion & Sediment Control** - Controlling erosion and soil loss from construction areas and resulting downstream sedimentation
- **Floodplain Management** - Preserving the function of floodplain areas to reduce flood hazards, minimize risks to human life and property, and reduce modifications to streams and protect water quality
- **Operations & Maintenance** - Ensuring that stormwater management systems and structural controls work as designed and constructed. Includes the retrofitting of existing problem areas and streambank stabilization activities
- **Pollution Prevention** - Preventing stormwater from coming into contact with contaminants and becoming polluted through a number of management measures

Together these six categories create the “umbrella” of comprehensive stormwater management

The City of Johns Creek is currently developing a comprehensive stormwater management program to satisfy state and federal requirements and to ensure that water quality in the city is maintained and enhanced and other negative stormwater impacts are minimized. In addition to the items above, the city’s program will consist of public education and participation efforts, water quality monitoring, and operations and maintenance activities to go along with existing development technical review and inspection programs. The goal of the stormwater management program is to keep streams, lakes, and rivers clean, protect properties from flood hazards, and ensure the proper operation and maintenance of the community’s stormwater infrastructure.

Everyone who lives, works, and plays in Johns Creek can have an active role in protecting our water resources. Visit our Web site, www.JohnsCreekGA.gov or City Hall to learn more about what you can do to contribute.